

1 generating an alarm signal when the total number of defects in a specific one of the  
core classes is equal to or greater than a first predetermined number.

2 18. (Amended) A computer-readable medium bearing instructions for  
automatically classifying defects [a defect] on the surface of an article, said instructions,  
when executed, being arranged to cause one or more processors to perform the steps of:

imaging the surface; [and]

classifying each of the defects [the defect] as being in one of a predetermined number  
of invariant core classes of defects;

determining a total number of defects in each of the core classes; and

generating an alarm signal when the total number of defects in a specific one of the  
core classes is about equal to or greater than a first predetermined number.

Claim 25, please delete underlining.

3 37. (Amended) An apparatus for classifying defects [a defect] on the surface of  
an article, comprising:

an imager to produce an image of the defect and a reference image;

a storage device to store the defect image and the reference image;

a comparator to compare the defect image and the reference image; [and]

a processor to classify the defect as being in one of a predetermined number of invariant core  
classes of defects;

a first counter for counting the number of defects in each of the core classes; and